Claims:

1. A telescopic front suspension system for use with vehicles having a front wheel, such as bicycles and motorcycles, comprising:

a steering tube mounted in a head tube of a vehicle frame and connected to a stem and handlebar above the head tube and to a fork crown below the head tube;

a pair of stanchion tubes having an elongated shape with upper ends attached to the fork crown and lower ends which slide axially inside of a corresponding pair of slider tubes having an elongated hollow shape with upper ends which receive the stanchion tubes therein and lower ends mounted on respective sides of an axle for the front wheel,

wherein the stanchion tubes and slider tubes have a matching cross-sectional shape that is a non-round, smooth curve, so as to allow them to freely telescope relative to each other while preventing rotation between the parts, resulting in more precise steering control for the rider.

2. A telescopic front suspension system according to Claim 1, wherein the cross-sectional shape of the stanchion tubes and slider tubes is an ellipse.

3. A telescopic front suspension system according to Claim 2, wherein the stanchion tubes and slider tubes are dimensioned for use on a bicycle, and the elliptical shape is dimensioned with its major axis in the range of 1.375 to 2.0 inches, and its minor axis in the range of 1.0 to 1.5 inches.

4. A telescopic front suspension system according to Claim 2, wherein the stanchion tubes and slider tubes are dimensioned for use on a bicycle, and the elliptical shape is dimensioned with an aspect ratio between major and minor axes of about seventy (70) percent.

5. A telescopic front suspension system according to Claim 2, wherein the stanchion tubes and slider tubes are dimensioned for use on a bicycle, and the stanchion

tubes have a length in the range of 8 to 12.5 inches and provide approximately 3 inches of suspension travel.

6. A telescopic front suspension system according to Claim 1, further comprising an external bushing mounted on each one of the upper ends of the slider tubes having an inner shape matching the outer shape of the stanchion tubes, and an internal bushing mounted to each one of the lower ends of the stanchion tubes having an outer shape matching the inner shape of the slider tubes, wherein the two-bushing arrangement allows the distance between the upper bushing and lower bushing to increase as the stanchion tube is telescopically displaced inside the slider tube.

7. A telescopic front suspension system according to Claim 6, wherein the external bushing has a first internal profile for mounting with an interference-fit on the upper end of the slider tube.

8. A telescopic front suspension system according to Claim 6, wherein the external bushing has a second internal profile which provides a gap in the range of .0005 to .0035 inches from the outer surface of the stanchion tube.

9. A telescopic front suspension system according to Claim 6, wherein the external bushing has a third internal profile for mounting a wiper seal to cover the upper end of the slider tube.

10. A telescopic front suspension system according to Claim 6, wherein the internal bushing has a first internal profile for mounting with an interference-fit on the lower end of the stanchion tube.

11. A telescopic front suspension system according to Claim 6, wherein the internal bushing has a second external profile which provides a gap in the range of .0005 to .0035 inches from the inner surface of the slider tube.

12. A telescopic front suspension system according to Claim 6, wherein the external bushing has a bushing carrier that is mounted over the upper end of the slider tube.

13. A telescopic front suspension system according to Claim 12, wherein the bushing carriers mounted on the upper ends of the two slider tubes have bosses provided with mounting holes for mounting a fork bridge to the slider assemblies.

14. A telescopic front suspension system according to Claim 1, further comprising a spring and damper assembly mounted within each pair of telescoping stanchion and slider tubes.

15. A telescopic suspension unit for use between a vehicle frame and a wheel, comprising:

a stanchion tube having an elongated shape with an upper end attached to the vehicle frame and a lower end which slides axially inside of a corresponding slider tube having an elongated hollow shape with an upper end which receives the stanchion tube therein and a lower end mounted on an axle for the wheel,

wherein the stanchion tube and slider tube have a matching cross-sectional shape that is a non-round, smooth curve, so as to allow them to freely telescope relative to each other while preventing rotation between the parts, resulting in more precise suspension control for the vehicle.

16. A telescopic suspension unit according to Claim 15, wherein the cross-sectional shape of the stanchion tube and slider tube is an ellipse.

17. A telescopic suspension unit according to Claim 16, wherein the stanchion tube and slider tube have a cross-sectional elliptical shape dimensioned with an aspect ratio between major and minor axes of about seventy (70) percent.

18. A telescopic suspension unit according to Claim 1, further comprising an external bushing mounted on the upper end of the slider tube having an inner shape matching the outer shape of the stanchion tube, and an internal bushing mounted to the lower end of the stanchion tube having an outer shape matching the inner shape of the slider tube, wherein the two-bushing arrangement allows the distance between the upper bushing and lower bushing to increase as the stanchion tube is telescopically displaced inside the slider tube.

19. A telescopic suspension unit according to Claim 18, wherein the external bushing has a first internal profile for mounting with an interference-fit on the upper end of the slider tube.

20. A telescopic suspension unit according to Claim 18, wherein the internal bushing has a first internal profile for mounting with an interference-fit on the lower end of the stanchion tube.